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10/057,973	01/29/2002	Masaaki Araki	111813	5628
25944	7590	03/24/2011		
OLIFF & BERRIDGE, PLC			EXAMINER	
P.O. BOX 320850			ALMEIDA, CORY A	
ALEXANDRIA, VA 22320-4850				
			ART UNIT	PAPER NUMBER
			2629	
			NOTIFICATION DATE	DELIVERY MODE
			03/24/2011	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/057,973

**Applicant(s)**

ARAKI ET AL.

**Examiner**

CORY A. ALMEIDA

**Art Unit**

2629

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-8 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8, 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 5-8, and 14-19 are pending.

Claims 1-4, and 9-13 are cancelled.

Claim 20 is new.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara, US-5329390 in view of Kostecki, US- 6118572, and in view of Harada, US-6618102.

3. In regards to claim 5, Fujiwara discloses an image record apparatus (Abstract), comprising a light application section for applying exposure light (Fig. 1, L1) to an image record media (Fig. 1 device), a voltage application section for applying an image write voltage to each of the plurality of image record media (Fig. 1, 18), and a control section for controlling the light application section and the voltage application section so that exposure light representing an image is applied to the plurality of image record media and the image write voltage is applied to the image record media on which the same visible image as the image is to be recorded (Col. 1, 15-30), wherein the plurality of image record media, each for recording an image upon application of exposure light and application of a voltage, each includes: an image record layer (Fig. 1, 17) on which an

image is recorded upon application of exposure light (Fig. 1), each image record media having a different image record layer (Fig. 1, 17); and a functional layer (Fig. 1, 13) formed on one side of the image record layer (Fig. 1) for transmitting the exposure light (Col. 3, 15-30) and transmitting 10% or less of visible light (Col. 3, 46-61), each of the plurality of image record media being stacked on each other for placement to record a visible image on each of the image record media (Col. 3, 15-30), wherein the functional is configured to transmit the exposure light from an incidence side of the image record layer to an opposite side at least under the condition that the exposure light is applied (Fig. 1, Col. 5, 15-30); and each of the functional layers shield visible light when the image recorded on the image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a plurality of image record media, a wavelength range of the exposure light being outside a visible wavelength range.

Harada discloses a plurality of image record media (Fig. 5)

At the time of the invention, it would have been obvious to one of ordinary skill in the art that a plurality of image record media could be written simultaneously as Harada discloses.

The motivation would have been for cost and time savings.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki and Harada with Fujiwara to obtain the invention specified in claim 5.

4. In regards to claim 6, Fujiwara discloses the control section controls the light application section and the voltage application section so that exposure light is applied to the plurality of image record media and the image write voltage is applied to the plurality of image record media at the same time to record the same visible image on each of the image record media by using the transmitted exposure light, which is transmitted through each of the functional layers (Col. 3, 15-30).

5. In regards to claim 7, Fujiwara discloses the control section controls the light application section and the voltage application section so that an image write process of applying the exposure light representing an image to the plurality of image record media and applying the image write voltage to the image record media on which the same visible image as the image is to be recorded is repeated, and changing to exposure light representing a different image and applying the image write voltage to a different image record media are being conducted, thereby recording each visible image on each of the image record media (Col. 3, 15-30).

6. In regards to claim 8, Fujiwara discloses the control section controls the light application section and the voltage application section so as to reset to record a uniform initial image on the image record media before the visible image is recorded on the image record media (Col. 5, 45 – Col. 6, 2).

7. Claims 14-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara, US-5329390 in view of Kostecki, US- 6118572.
8. In regards to claim 14, Fujiwara discloses an image record apparatus for recording a visible image on an image record medium (Abstract), comprising: an exposure section for applying exposure light to an image record medium (Fig. 1, L1), a voltage application section for applying an image write voltage to an image record layer forming a part of the image record medium (Fig. 1, 18), and a write control section (Col. 5, 15-30), wherein the image record medium records the visible image thereon upon application of the exposure light and application of the image write voltage (Col. 5, 15-30), the image record medium includes a first and a second image record layers, the first and second image record layers being different (Fig. 1, 11A and B), on which the visible image is recorded upon the application of exposure light (Col. 5, 15-30), and a functional layer (Fig. 1, 14) formed between the first and second image record layers for transmitting the exposure light (Col. 5, 15-30), transmitting 10% or less of visible light (Col. 3, 46-61), and the write control section is configured to control the exposure section and the voltage application section under a condition that a visible image is recorded on the first image record layer on a front surface side close to the exposure section, exposure light representing the visible image to be recorded on the first image record layer is applied to the image record medium and write voltage and voltage improper to write is applied to the first image record layer and the second image record layer on a rear surface side away from the exposure section, respectively, (Col. 5, 15-30), and under a condition that when the visible image is recorded on the second

image record layer on the rear surface side, exposure light representing the visible image to be recorded on the second image record layer is applied to the image record medium and write voltage and voltage improper to write are applied to the second image record layer and the first image record layer, respectively (Col. 5, 45 - Col. 6, 2), the functional layer transmits the exposure light from an incidence side of the exposure light to the image record layer on an opposite side to the incidence side at least when the exposure light is applied (Fig. 1, Col. 5, 15-30); and the functional layer shields visible light when the visible image recorded on the image record layer is observed (Col. 3, 46-61).

Fujiwara does not disclose expressly a wavelength range of the exposure light being outside a visible wavelength range.

Kostecki discloses that exposure light can be UV which is outside the visible light spectrum (Col. 5, 40-50).

At the time of the invention, it would have been obvious that the exposure light of Fujiwara could be outside of the visible spectrum as Kostecki discloses.

The motivation for doing so would have been so that the user does not see the exposure light, thus making a more pleasant viewing experience.

Therefore it would have been obvious to combine Kostecki with Fujiwara to obtain the invention specified in claim 14.

9. In regards to claim 15, Fujiwara discloses the exposure section changes a light amount of the exposure light under a condition that a visible image is recorded on the

first image record layer and the second image record layer of the image record medium (Col. 5, 15-30, Col. 5, 45 - Col. 6, 2).

10. In regards to claim 16, Fujiwara discloses the write control section is configured to control the exposure section and the voltage application section to cause the visible image to first recorded on the second image record layer of the image record medium and the visible image to next be recorded on the first image record layer (Col. 5, 45 - Col. 6, 2 Fig. 1 the light goes from 11a (second) to 11b (first)).

11. In regards to claim 17, Fujiwara discloses before the visible image is recorded on the second image record layer of the placed image record medium, the electric voltage section applies a reset voltage to record a uniform initial image at least to the first image record layer (Col. 6, 11-36).

12. In regards to claim 19, Fujiwara discloses under a condition of applying exposure light representing an image to the second image record layer, the exposure section causes a mirror image of the visible image to be recorded on the second image record layer (Col. 5, 45 - Col. 6, 2).

13. In regards to claim 20, Fujiwara, Kostecki, and Harada discloses wherein each of the functional layers is respectively stacked on each of the image record layers (Harada Fig. 5 + Fujiwara Fig. 1).

14. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara, US-5329390 and Kostecki, US-611857, in view of Baraff, US-4223308.



Fujiwara and Kostecki disclose the voltage application section records a visible image on the second image record layer under a condition of applying voltage to the first image record layer (Col. 5, 15-30).

Fujiwara, Kostecki, and Harada do not disclose expressly each of the first and second image record layers has a display layer made of a cholesteric liquid crystal with an optical characteristic that changes upon application of voltage for recording a visible image.

Baraff discloses cholesteric liquid crystal and electrochromic material can be used interchangeably (Col. 5, 5-12) and whose optical characteristic changes upon application of voltage for recording a visible image (Abstract).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art that one could use cholesteric liquid crystal instead of liquid crystal or dielectric material.

The motivation for doing so would have been that liquid crystal is more widely used in consumer electronic apparatuses providing greater flexibility and accessibility for manufacturers.

Therefore, it would have been obvious to combine Baraff with Fujiwara, Kostecki to obtain the invention as specified in claim 18.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, 4-9, and 12-19 have been considered but are moot in view of the new ground(s) of rejection, as presented above.

The applicant also argues the newly amended claim language, which is addressed above.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORY A. ALMEIDA whose telephone number is (571) 270-3143. The examiner can normally be reached on Monday through Friday 8AM to 4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CA/

/Kevin M Nguyen/

Primary Examiner, Art Unit 2629